

Figure 1



Wild type 3' LTR sequence:

```
1  GAACAGATGG AACAGCTGAA TATGGGCCAA ACAGGATATC TGTGG TAAGC
51  AGTTCC TGCC CCGGCTCAGG GCCAAGAACA GATGGAACAG CTGAATATGG
101 GCCAAACAGG ATATCTGTGG TAAGCAGTTC CTGCCCCGGC TCAGGGCCAA
151 GAACAGATGG TCCCCAGATG CGGTCCAGCC CTCAGCAGTT TCTAGAGAAC
201 CATCAGATGT TTCCAGGGTG CCCCAAGGAC CTGAAATGAC CCTGTGCCTT
251 ATTTGAACTA ACCAATCAGT TCGCTTCTCG CTTCTGTTCTG CGCGCTTCTG
301 CTCCCCGAGC TCAATAAAA
```

Corresponding modified 3' LTR sequence from pENZ1
(modified sequences in bold italics):

```
1  ACGCTTGATC CGGCTACCTG CCCATTGAC CACCAAGCGA AACATCGCAT
51  CGAGCGAGCA CGTACTCGGA TGGAAGCCGG TCTTGTCGAT CAGGATGATC
101 TGGACGAAGA GCATCAGGGG CTCGCGCCAG CCGAACTGTT CGCCAGGCTC
151 AAGGCGCGCA TGCCCCACGG CGAGGATCTC GTCGTGACTT TCTAGAGAAC
201 CATCAGATGT TTCCAGGGTG CCCCAAGGAC CTGAAATGAC CCTGTGCCTT
251 ATTTGAACTA ACCGGTCAGT TCGCTTCTCG CTTCTGTTCTG CGCGCTTCTG
301 CTCCCCGAGC TCAGCTGCG
```

Figure 2

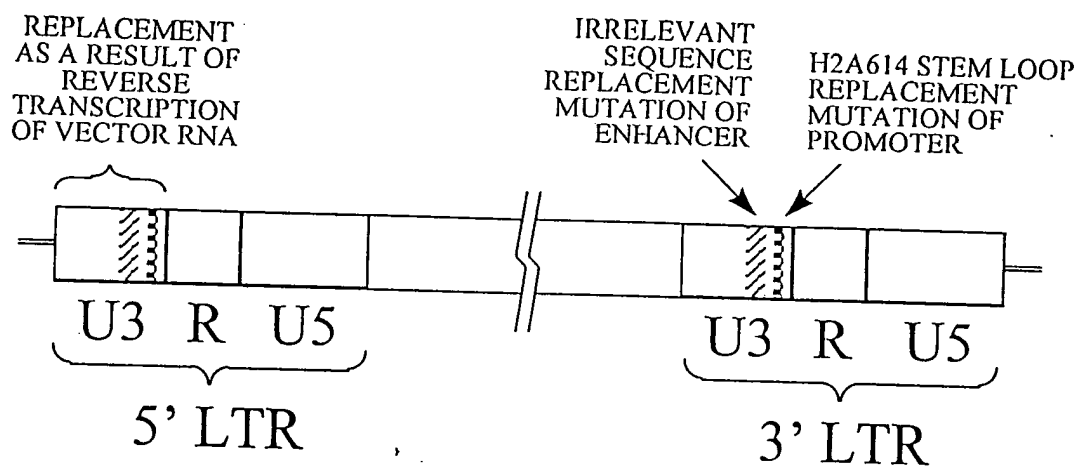


Figure 3

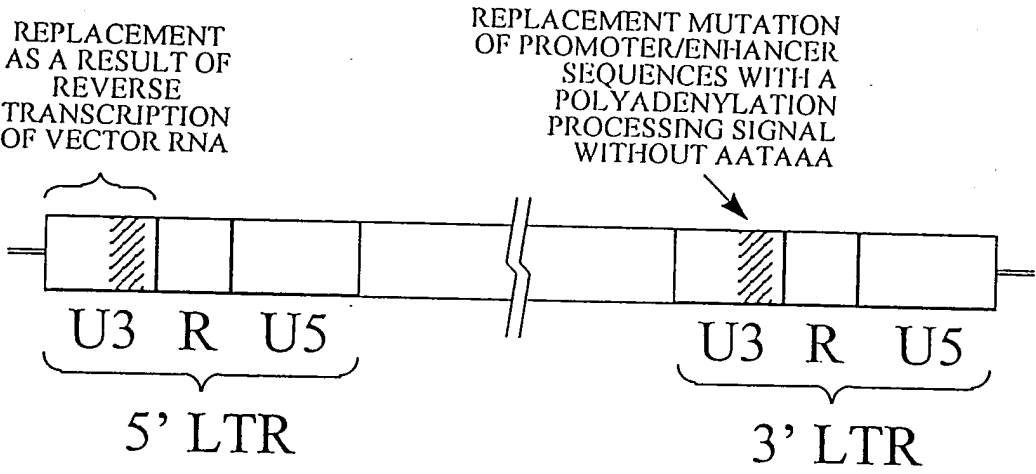
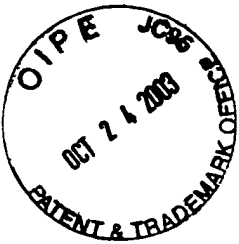


Figure 4

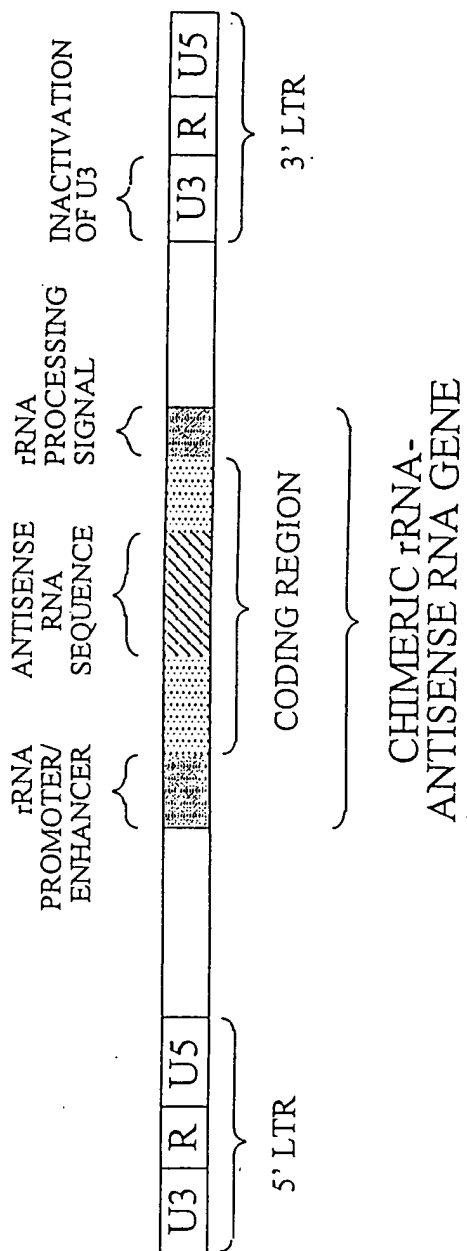


Figure 5

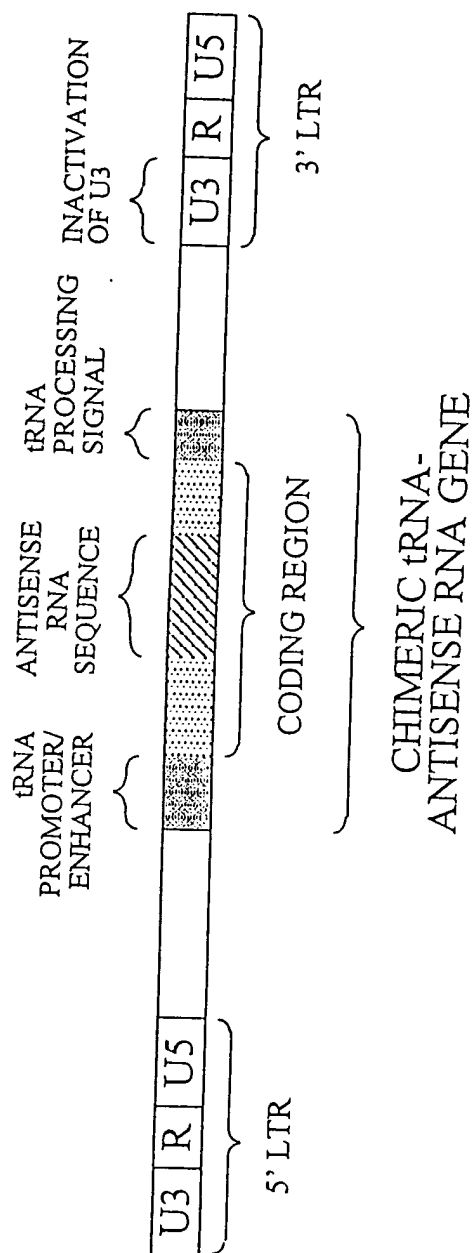


Figure 6

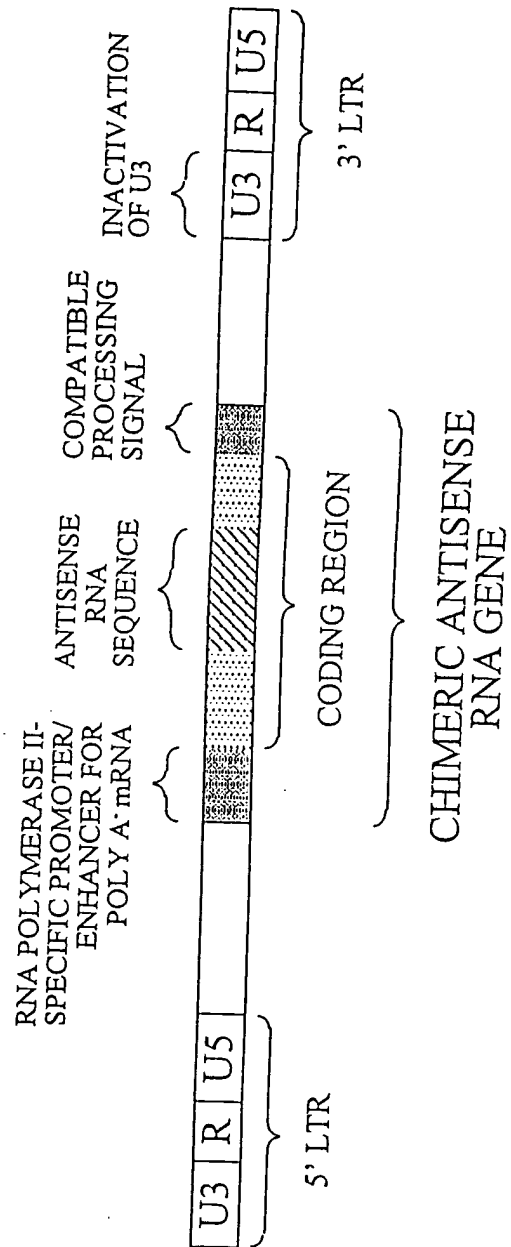
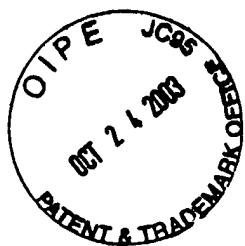


Figure 7



Vector DNA
Construct Transfected
into Packaging Cell

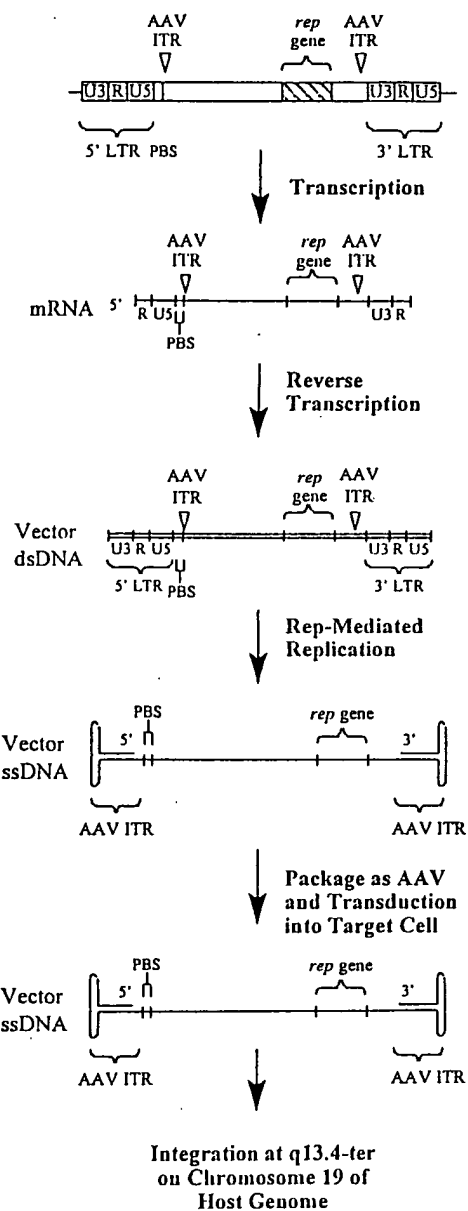


Figure 8



Vector DNA
Construct Transfected
into Packaging Cell

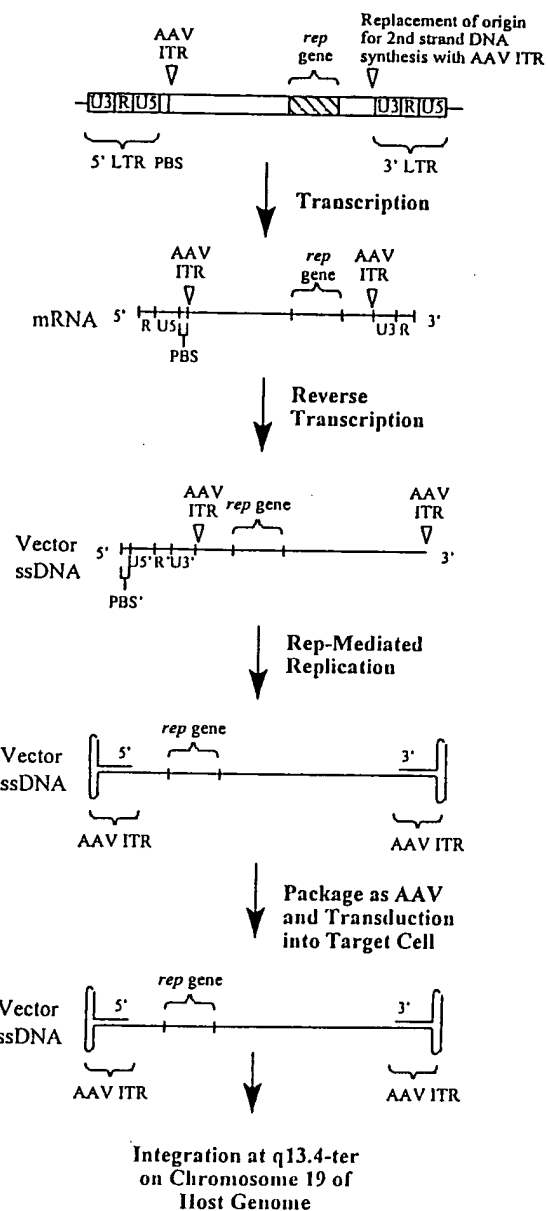


Figure 9



Vector DNA Construct
Transfected into
Packaging Cell

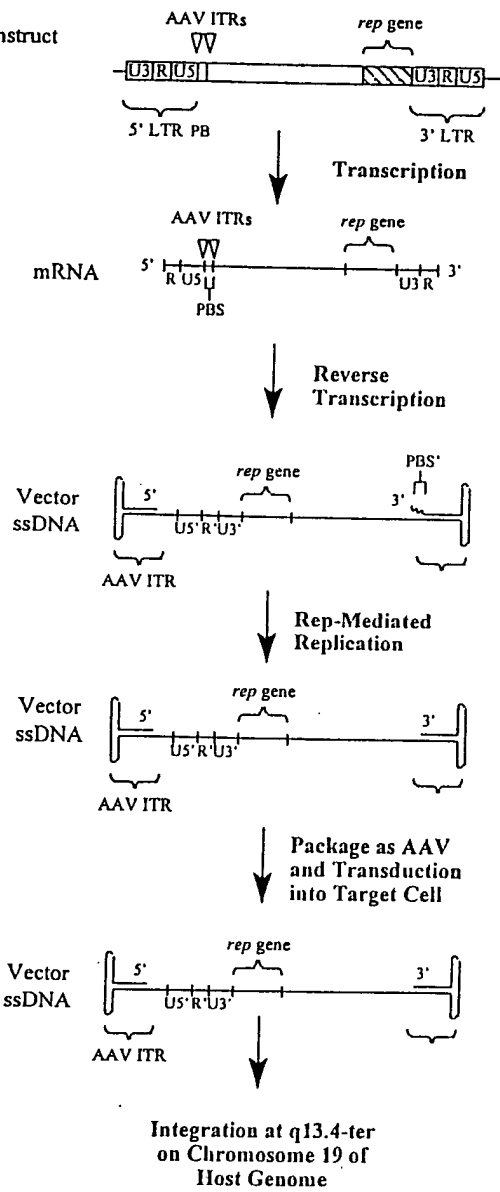


Figure 10



Vector DNA
Construct Transfected
into Packaging Cell

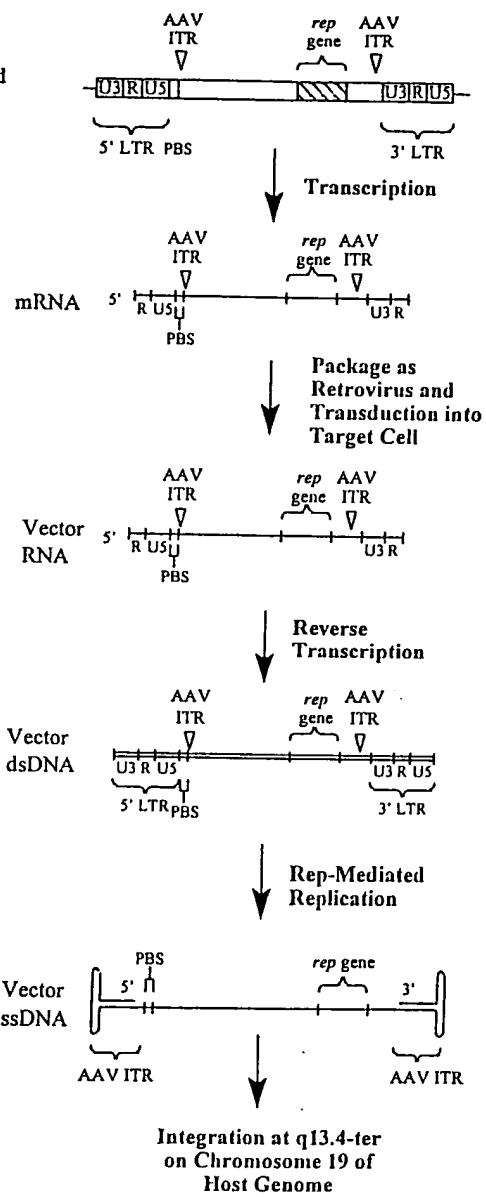


Figure 11

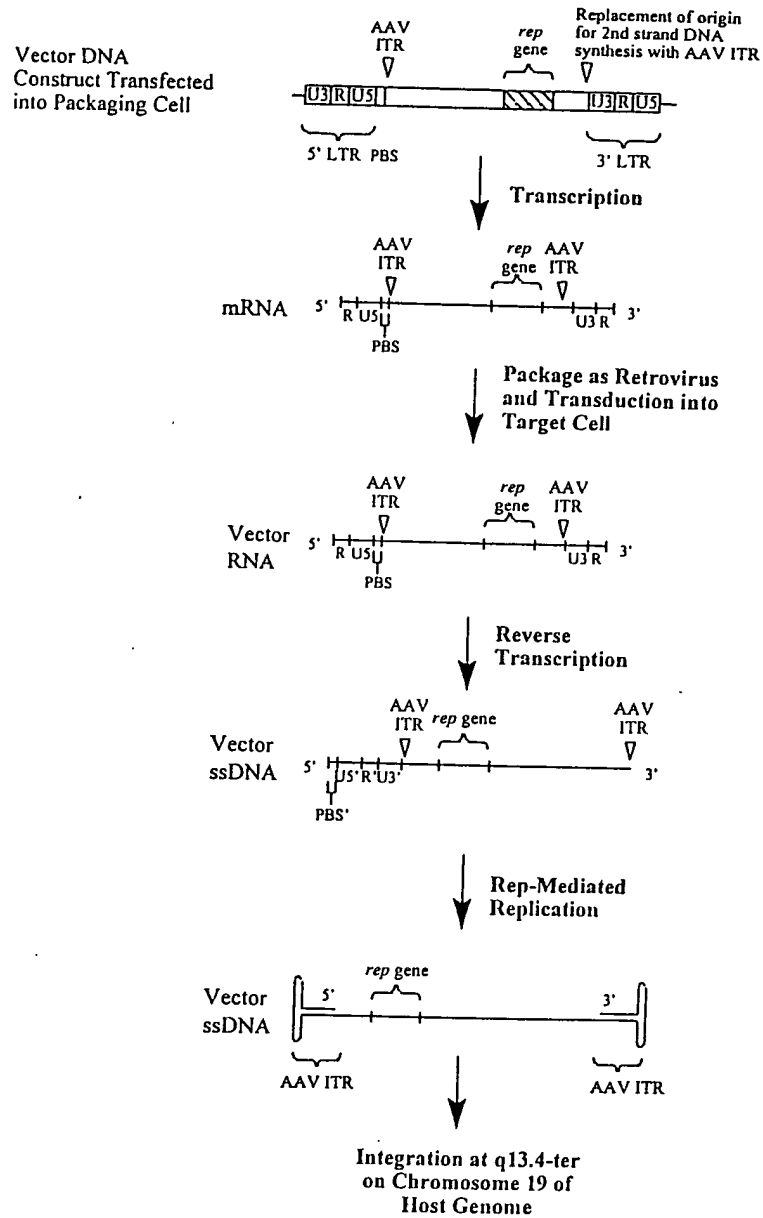
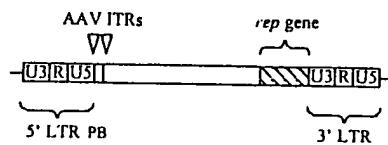


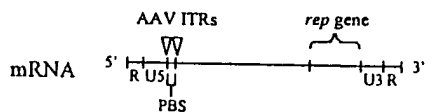
Figure 12



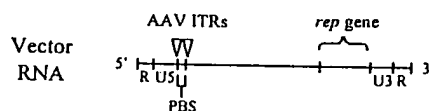
Vector DNA Construct
Transfected into
Packaging Cell



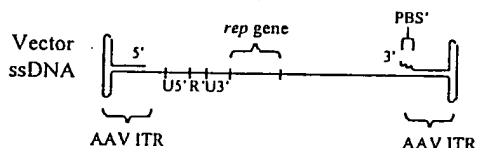
Transcription



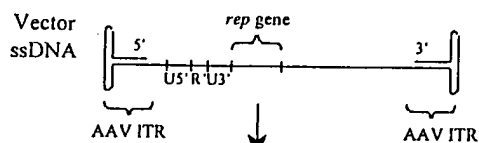
Package as Retrovirus
and Transduction into
Target Cell



Reverse
Transcription



Rep-Mediated
Replication



Integration at q13.4-ter
on Chromosome 19 of
Host Genome

Figure 13